CHANGE HISTORY (≤ LAST 5 REV-MODS)

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<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
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<tr>
<td>L-7</td>
<td>01/29/2018</td>
<td>Operations Request</td>
<td>Sub-section 5.4.1.2: Added &quot;the &quot;X&quot; button on the top right of the window to&quot;. Sub-section 5.4.1.3: Removed &quot;windows&quot; and substitute it with &quot;the &quot;Start&quot;. Sub-section 5.4.1.3: Added &quot;on the bottom left of the screen.&quot; at the end of the sentence. Added 2.1.2 &quot;The message on the screen of the ammonia monitor stating that the memory is getting low, does not affect the operability of the equipment. Disregard message.</td>
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<tr>
<td>L-6</td>
<td>07/11/2017</td>
<td>Operations Request</td>
<td>Corrected formatting and changed a note to an action.</td>
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<td>L-5</td>
<td>06/06/2017</td>
<td>Operations Request</td>
<td>Updated note.</td>
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<td>L-4</td>
<td>12/08/2016</td>
<td>Operations request</td>
<td>Added two notes to 5.1, Modified 5.1.2, Bolded portion of special instructions.</td>
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<tr>
<td>L-3</td>
<td>05/02/2016</td>
<td>Operations request to address procedure shortcoming.</td>
<td>Added better description of location in Step 5.1.1.2. Added new Section 5.4 to Restart the Ammonia Monitor.</td>
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### Vessel Vent Ammonia Monitor

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for the starting up, placing in standby and shutting down of the ammonia monitor on the Vessel Vent exhaust stack at the 242-A Evaporator.

1.2 Scope

This procedure applies to the ammonia monitor on the vessel vent exhaust at the 242-A Evaporator.

2.0 INFORMATION

2.1 General Information

The white strobe light installed near the ammonia monitor cabinet is for indication of a fault alarm only – not high ammonia. The fault alarm also alarms on the MCS. In the event of discovery of white strobe activation, follow the associated MCS ARP.

2.1.1 The MCS alarm setpoint for the Vessel Vent Ammonia Monitor (AI-NH3-1) is 1,200 ppm. This concentration is roughly equal to 50 lbs. per day (24-hour period).

2.1.2 The message on the screen of the ammonia monitor stating that the memory is getting low, does not affect the operability of the equipment. Disregard message.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Job-specific protective equipment requirements should be addressed during the pre-job brief and be in accordance with TFC-ESHQ-S_IS-C-02.

3.2 Radiation and Contamination Control

3.2.1 Work in radiological areas will be performed using a Radiological Work Permit following review by Radiological Control per the ALARA work planning procedure TFC-ESHQ-RP_RWP-C-03.

3.2.2 When work is performed in or when work will result in a high contamination, high radiation, or an airborne radioactivity area, an approved work package must be developed which is reviewed by Radiological Control per ALARA work planning procedure TFC-ESHQ-RP_RWP-C-03.

3.3 Environmental Compliance

3.3.1 Ammonia emissions from the Vessel Vent stack must be limited to less than 100 lbs. per day (24 hour period) to remain below the reportable quantity for ammonia.

3.3.2 Ammonia monitoring is required when the Evaporator is in Operations Mode. Environmental must be notified per the on-call list should monitoring failure occur during operation.

4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

- Leather protective gloves
- Other tools, equipment, and supplies as identified by Shift Manager/OE/FWS

4.2 Field Preparation

4.2.1 Working copy of procedure has been checked to ensure it is the latest version with all field changes included.
5.0 PROCEDURE

Sections 5.1 through 5.3 may be worked independently or any logical order as directed by the Shift Manager/OE.

Ammonia Monitor will start up and begin taking samples within 5 minutes of power re-applied.

5.1 Ammonia Monitor Start

5.1.1 USING the AM-NH3-1 touchscreen, PERFORM the following:

5.1.1.1 SELECT Statuses tab AND ENSURE the following:
- Standby Mode is OFF
- Pump is ON.

5.1.2 ALLOW monitor warm up for 5 minutes prior to performing step 5.1.2.1.

5.1.2.1 ENSURE Run is grayed out in the upper left hand border.

NOTE The resolution of the signal from the analyzer is approximately 3 ppm per hundredth of a mA. Therefore if the ammonia concentration is less than 3 ppm on the monitor’s display, the reading on the MCS may be zero.

5.1.3 CONFIRM AI-NH3-1 (F21/8) values match the output values on the touchscreen, in the DATA tab.

5.1.4 CONFIRM AX-NH3-1 (F21/9) is in NORMAL.
5.2 Ammonia Monitor Standby Mode

5.2.1 USING the AM-NH3-1 touchscreen, PERFORM the following:

5.2.1.1 ON left hand column SELECT STOP.

5.2.1.2 ON Statuses Tab, ENSURE Standby Mode is ON.

5.2.1.3 ON Statuses Tab, ENSURE, Pump is OFF.
5.3 Shutdown Ammonia Monitor

Shutdown will normally only be used when it is required to remove power from the unit, such as power outage or lockout/tagout.

5.3.1 ON AM-NH3-1 touchscreen, PERFORM the following to shut down the ammonia monitoring:

5.3.1.1 SELECT STOP.

5.3.1.2 SELECT Exit CMS.

5.3.1.3 SELECT windows button AND

SELECT Shutdown.
5.4 Restart Ammonia Monitor

NOTE  Restarting the ammonia monitor will normally only be performed when it is required to reset the program if the monitor is behaving outside of expected conditions, or to reset a fault condition.

5.4.1 ON AM-NH3-1 touchscreen, PERFORM the following to restart the ammonia monitoring:

5.4.1.1 SELECT STOP.

5.4.1.2 SELECT the “X” button on the top right of the window to Exit CMS.

5.4.1.3 SELECT the “Start” button on the bottom left of the screen.

5.4.1.4 PRESS the arrow next to “SHUT DOWN” AND PRESS RESTART.

Special Instructions

Upon startup, the ammonia monitor will start CMS automatically. After the cell comes up to temperature, the pump will turn on and the ammonia monitor will automatically start taking samples. DO NOT PRESS “RUN” after the ammonia monitor has been rebooted, allow the program to initiate sampling by itself.

NOTE - By cycling the breaker, the ammonia monitor will automatically startup.

5.4.2 IF the ammonia monitor was inadvertently shut down when a restart was attempted, CYCLE breaker 11 on Panel E.
5.5 Records

The performance of this procedure generates no records.

The record custodian identified in the company-level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.